

**IN THE CLAIMS:**

1           1.       (Currently Amended) A cross-linking compound which comprises:

2                   (a)     an anhydrous hydrocarbon compound liquid at ambient temperature;

3                   (b)     having at least one di- or poly- Group VI-A element of the periodic table of  
4 elements; and

5                   (c)     a natural or synthetic polymer liquid at ambient temperature having a  
6 molecular weight less than 30,000 ~~70,000~~.

1           2.       (Original) A cross-linking compound as set forth in Claim 1 wherein said Group VI-  
2 A element is sulfur.

1           3.       (Original) A cross-linking compound as set forth in Claim 1 wherein said polymer  
2 is a multi-component polymer.

1           4.       (Original) A cross-linking compound as set forth in Claim 1 wherein said polymer  
2 is saturated.

1           5.       (Original) A cross-linking compound as set forth in Claim 1 wherein said polymer  
2 contains functional groups.

1           6.       (Previously Withdrawn) A cross-linking compound as set forth in Claim 1 wherein  
2 said polymer is hydroxy terminated polybutadiene.

1           7.       (Original) A cross-linking compound as set forth in Claim 1 wherein said polymer  
2 contains two or more chemical moieties.

1           8.       (Original) A cross-linking compound as set forth in Claim 7 wherein said polymer  
2 is a copolymer of butylene and butene.

1           9.       (Previously Withdrawn) A cross-linking compound as set forth in Claim 1 including  
2 aldehyde, phenol, phenol-aldehyde, melamine or epoxy resins.

1           10.      (Previously Withdrawn) A cross-linking compound as set forth in Claim 9 wherein  
2 said epoxy resins contains glycidyl moieties.

1           11.      (Previously Canceled) A cross-linking compound as set forth in Claim 1 wherein said  
2 polymer has a molecular weight less than about 70,000.

1           12.      (Currently Amended) A cross-linking compound which comprises:  
2                   (a)     an anhydrous hydrocarbon compound liquid at ambient temperature;  
3                   (b)     molecules or chemical moieties having two or more Group VI-A elements of  
4 the periodic table of elements; and  
5                   (c)     a natural or synthetic polymer liquid at ambient temperature having a  
6 molecular weight less than 30,000 ~~70,000~~.

1           13.    (Original) A cross-linking compound as set forth in Claim 12 wherein said polymer  
2    is a multi-component polymer.

1           14.    (Original) A cross-linking compound as set forth in Claim 12 wherein said polymer  
2    is saturated.

1           15.    (Original) A cross-linking compound as set forth in Claim 12 wherein said polymer  
2    contains functional groups.

1           16.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 15 wherein  
2    said polymer is hydroxy terminated polybutadiene.

1           17.    (Original) A cross-linking compound as set forth in Claim 12 wherein said polymer  
2    contains two or more chemical moieties.

1           18.    (Original) A cross-linking compound as set forth in Claim 17 wherein said polymer  
2    is a copolymer of butylene and butene.

1           19.    (Original) A cross-linking compound as set forth in Claim 12 wherein said Group  
2    VI-A elements of the periodic table of elements are in terminal positions on the molecules or  
3    chemical moieties.

1           20.    (Original) A cross-linking compound as set forth in Claim 19 wherein at least one  
2 of said Group VI-A elements of the periodic table of elements is sulfur.

1           21.    (Original) A cross-linking compound as set forth in Claim 20 wherein the molecules  
2 or chemical moieties are mercaptans.

1           22.    (Original) A cross-linking compound as set forth in Claim 12 wherein said Group  
2 VI-A elements of the periodic table of elements are not in the terminal position of the molecules or  
3 chemical moieties.

1           23.    (Original) A cross-linking compound as set forth in Claim 22 wherein said Group  
2 VI-A elements of the periodic table of elements are poly-element moieties within the molecules or  
3 chemical moieties.

1           24.    (Original) A cross-linking compound as set forth in Claim 23 wherein at least one  
2 of said Group VI-A elements is sulfur.

1           25.    (Original) A cross-linking compound as set forth in Claim 23 wherein the molecules  
2 or chemical moieties are Di-tert-butyl polysulfide, Di-tert-dodecyl polysulfide, Di-tert-nonyl  
3 polysulfide or combinations thereof.

1           26.    (Original) A cross-linking compound as set forth in Claim 23 wherein the poly-  
2    element moiety is poly-sulfide.

1           27.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 23 including  
2    additional cross-linking agents of aldehydes, phenols, phenol-aldehydes, melamine resins or epoxy  
3    resins.

1           28.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 23 wherein  
2    said epoxy resin contains glycidyl moieties.

1           29.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 28 wherein  
2    the glycidyl moiety is neodecanoic acid, oxiranylmethyl ester.

1           30.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 1 including  
2    vulcanization accelerators or co-reactant.

1           31.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 30 wherein  
2    the accelerator or co-reactant is Tetramethyl Thiuram Disulfide.

1           32.    (Previously Withdrawn) A cross-linking compound as set forth in Claim 30 wherein  
2    the accelerator or co-reactant is Tetrabutylthiuram Disulfide.

1           33.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 30 wherein  
2     the accelerator or co-reactant is a room temperature accelerator or co-reactant.

1           34.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 30 wherein  
2     the accelerator or co-reactant is Dimethyl Cyclohexyl Ammonium Dibutyl Dithiocarbamate.

1           35.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 1 including  
2     organic oils or solvents.

1           36.     (Previously Canceled) A cross-linking compound as set forth in Claim 35 wherein  
2     the organic oils or solvents are derived as a result of components fractionated from crude oil  
3     processing.

1           37.     (Previously Canceled) A cross-linking compound as set forth in Claim 36 wherein  
2     the fractionated components are process oils.

1           38.     (Previously Canceled) A cross-linking compound as set forth in Claim 37 wherein  
2     the process oils are either aromatic, napthenic or paraffinic or combinations thereof.

1           39.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 35 wherein  
2     the organic oils or solvents are derived from natural oils.

1           40.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 39 wherein  
2     the natural oils are of either animal or vegetable origin.

1           41.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 39 wherein  
2     the oil is of vegetable origin.

1           42.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 35 wherein  
2     the organic oils or solvents contain elements of Group V-A of the periodic table of elements.

1           43.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 42 wherein  
2     the Group V-A elements contained in said oils or solvents is either phosphorous or nitrogen or both.

1           44.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 43 wherein  
2     said oils or solvents containing both phosphorous and nitrogen is lecithin.

1           45.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 1 which  
2     includes chemical moieties capable of forming an oxidation-reduction reaction.

1           46.     (Previously Withdrawn) A cross-linking compound as set forth in Claim 45 wherein  
2     the chemical moieties capable of forming a oxidation-reduction reaction are iron sulfate and iron  
3     chloride.

1           47.   (Previously Canceled) A polymer modified asphalt or bitumen which comprises:  
2                   (a)     asphalt or bitumen;  
3                   (b)     an anhydrous compound liquid at ambient temperature having at least one  
4   element chosen from Group VI-A of the periodic table of elements; and  
5                   (c)     a natural or synthetic polymer.

1           48.   (Previously Canceled) A polymer modified asphalt or bitumen as set forth in Claim  
2   47 including aldehyde, phenol, phenol-aldehyde, melamine or epoxy resins.

1           49.   (Currently Amended) A cross-linking compound which comprises:  
2                   (a)     an anhydrous hydrocarbon compound liquid at ambient temperature having  
3   elemental sulfur, oxygen or selenium therein, wherein said hydrocarbon compound is Di-tert-butyl  
4   polysulfide, Di-tert-dodecyl polysulfide, Di-tert-nonyl polysulfide or combinations thereof; and  
5                   (b)     an ethylenic polymer liquid at ambient temperature having a molecular weight  
6   less than 30,000 ~~70,000~~, wherein said polymer is a copolymer of butylene and butene.

1           50.   (Original) A cross-linking compound as set forth in Claim 1 wherein said anhydrous  
2   hydrocarbon compound is an organic process oil from crude or coal processing.

1           51.   (Original) A cross-linking compound as set forth in Claim 12 wherein said anhydrous  
2   hydrocarbon compound is an organic process oil from crude or coal processing.